National Institute of Environmental Health Sciences

Seasonal variation of acute gastro-intestinal illness by hydroclimatic regime and drinking water source: A retrospective population-based study

Author(s): Galway LP, Allen DM, Parkes MW, Takaro TK
Year: 2014
Journal: Journal of Water and Health. 12 (1): 122-135

Abstract:

Acute gastro-intestinal illness (AGI) is a major cause of mortality and morbidity worldwide and an important public health problem. Despite the fact that AGI is currently responsible for a huge burden of disease throughout the world, important knowledge gaps exist in terms of its epidemiology. Specifically, an understanding of seasonality and those factors driving seasonal variation remain elusive. This paper aims to assess variation in the incidence of AGI in British Columbia (BC), Canada over an 11-year study period. We assessed variation in AGI dynamics in general, and disaggregated by hydroclimatic regime and drinking water source. We used several different visual and statistical techniques to describe and characterize seasonal and annual patterns in AGI incidence over time. Our results consistently illustrate marked seasonal patterns; seasonality remains when the dataset is disaggregated by hydroclimatic regime and drinking water source; however, differences in the magnitude and timing of the peaks and troughs are noted. We conclude that systematic descriptions of infectious illness dynamics over time is a valuable tool for informing disease prevention strategies and generating hypotheses to guide future research in an era of global environmental change.

Source: http://dx.doi.org/10.2166/wh.2013.105

Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Food/Water Quality, Temperature

Food/Water Quality: Pathogen

Temperature: Fluctuations

Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

Geographic Location:

resource focuses on specific location

Non-United States

Non-United States: Non-U.S. North America

Health Impact: ☑

specification of health effect or disease related to climate change exposure

Infectious Disease

Infectious Disease: Foodborne/Waterborne Disease

Foodborne/Waterborne Disease (other): gastrointestinal disease

Resource Type: ☑

format or standard characteristic of resource

Research Article

Timescale: ☑

time period studied

Time Scale Unspecified